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# The Role of Social Capital in Reclaiming Human Capital: A Longitudinal Study of Occupational Mobility among Displaced Steelworkers

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*This paper examines the employment and income effects of job training, education, and social network contacts over a 10-year period among a random sample of steelworkers who lost jobs to plant closings in the early 1980s in a manufacturing community in Western Pennsylvania. First interviewed in 1987, a majority of the 102 respondents were unemployed or underemployed. A second round of interviews was conducted in 1997 with 87 of the original respondents to examine changes in income and employment status, the types of training and education that had been pursued over the course of 10 years, and their use of social network contacts in the job search process. The study found that short-term training was not effective in providing training-related employment or in advancing hourly wages above the sample mean. Social network contacts were the primary means by which the respondents secured manufacturing work and other skilled positions.*

Following the loss of hundreds of thousands of manufacturing jobs in the 1980s, research and media accounts carried stark reports from the Rust Belt and other industrial communities of abandoned mills, economic recessions, and manufacturing workers resigned to working at low-wage service sector jobs (Buss & Redburn, 1983; Dudley, 1994; Illes, 1995; Pappas, 1989). Research indicates that in the past most displaced industrial workers experienced substantial earnings decreases in the years following their job losses, with few blue collar workers having the education or professional experience to enter higher paying jobs in the growth sector of the service economy (Hammermesh, 1989; Jacobson,

LaLonde, & Sullivan, 1993; Moore, 1996). In addition to economic development, policy analysts have debated the effectiveness of employment assistance including human capital investments in job training and education, and the utilization of social network contacts and social capital to connect job seekers to employment (Council of Economic Advisors, 1996; Indegaard, 1999; U.S. Department of Labor, 1995). While much policy research has focused on the effects of training and education, some analysts contend that social capital is equally if not more important than human capital for socioeconomic advancements (Lin, 1999; Lin et al, 1981; Marsden & Hurlbert, 1988).

This article examines the roles of both social and human capital in the occupational mobility of a group of former industrial workers. The results were drawn from a 10-year longitudinal study of a random sample of steelworkers who lost jobs due to plant closings in 1983 and 1984 in a community in Western Pennsylvania. When first interviewed in 1987, four years after their job losses, a majority of the 102 respondents had experienced extensive downward mobility: most were working at low-wage service-sector jobs such as janitor and almost one-third reported incomes below the federal poverty line. A second wave of interviews was conducted in 1997 with a panel of 87 respondents to track changes in their income and employment status over the previous decade. Using in-depth interviews, the study solicited both quantitative and qualitative information to gain insight into the processes by which these displaced workers attempted to regain middle-income status including job training, education, and the utilization of job contacts and social networks, and examined the types of personal and employment strategies that yielded long-term economic gains.

As work provisions have become a more common feature of many social programs, attention within the field of social welfare has increasingly focused on understanding the methods that poor and low-income individuals use to obtain employment and higher wages. However, most of the extant studies on the applications and interactions of social and human capital have focused on middle-class and professional employees, and relatively little empirical information is available on poor and low-income groups (Schneider, 2000; Reingold, 1999; Zippay, 1990). While

not generalizable, this study raises questions for further research by exploring how this sample of low-income workers mobilized resources over the course of 10 years to gain employment and higher wages.

### Background

#### *Earnings Losses among Displaced Workers*

The percentage of the population employed in manufacturing has decreased from 40% in 1950 to 13.5% in 1998 (Bureau of Labor Statistics, 2000; Meisenheimer, 1998). In the first five years following job loss, most workers displaced from manufacturing jobs have difficulty finding re-employment at a wage comparable to those of their lost jobs and many suffer substantial earnings losses, a pattern that has been documented by numerous case studies and national quantitative surveys including the Bureau of Labor Statistics Displaced Workers Survey (DWS) and the University of Michigan Panel Study of Income Dynamics (PSID) (Hammermesh, 1989; Kletzer, 1991; Levitan & Magum, 1994; Ruhm, 1991). The few studies that have estimated effects over 10 years or more have found that many displaced industrial workers suffer significant sustained losses, with wage decreases averaging 20 percent for those re-employed in manufacturing, and 40 percent for those working in non-manufacturing jobs (Jacobson, LaLonde, and Sullivan, 1993; Moore, 1996). Prolonged unemployment and underemployment are most severe among older individuals (aged 45–64), less educated workers, those with long job tenure, those who shift occupations, and those who reside in non-metropolitan areas and locales with depressed economies (Howland & Peterson, 1988; Moore, 1996; Podgursky, 1989).

The factors contributing to these earnings losses have included the nature of the jobs in the growth sector of the service economy, and the changing characteristics of available manufacturing jobs. Across all occupational categories, individuals are increasingly hired and rewarded for higher education and skills (Council of Economic Advisors, 1996; Murphy & Finis, 1993). The rate of unionization among wage and salaried manufacturing workers dropped from 28% in 1983 to 17% in 1998, and many firms have adopted two-tier wage systems in which new employees

are hired at a lower wage rate (Bureau of Labor Statistics, 1999a; 1999b).

### *Human Capital Investment*

It has been argued that, to gain entrance to the post-industrial high-paying service sector, most displaced workers require significant human capital investments in the form of advanced training and education to acquire new job skills (Becker, 1993; Council of Economic Advisors, 1996). While many displaced manufacturing workers are highly skilled, their abilities are often firm-specific and not easily transferred to other occupations (Jacobson, LaLonde, & Sullivan, 1993; Kletzer, 1991; Seitchik & Zornitsky, 1989). Occupational shifts typically require starting over with no seniority, low benefits, and a lower wage. Analyzing data from the Displaced Workers Survey, Farber (1993) has argued that most earnings decreases are due to the loss of job tenure, which is never regained. While some analysts advocate for intensive and advanced retraining, most of the job training available to displaced workers through public programs has focused on short-term training with participation rates averaging 14 to 30 weeks through programs including the Job Training Partnership Act (Titles III and II-A), the Economic Dislocated Workers Adjustment Assistance Act (EDWAA) (which amended JTPA Title III), and the Trade Readjustment Assistance Act (for workers displaced because of foreign competition). A comprehensive review by the U.S. Department of Labor (1995) of controlled evaluations of these programs found that short-term training did not produce earnings gains among displaced manufacturing workers, and the reports of numerous other case studies and national evaluations echoed these findings (Corson, et al, 1993; Koppel & Hoffman, 1996; Lafer, 1994). A review, however, of longer-term training among displaced workers and studies of older college students and community college attendance have found positive impacts on earnings (U.S. Department of Labor, 1995; Kane & Rouse, 1995).

Despite the fact that manufacturing represents a declining rather than an expanding occupational sector, research indicates that many displaced manufacturing workers prefer re-employment in a familiar blue collar setting (Buss & Redburn, 1983; Hathaway, 1993). Analyzing data from the Current Population Survey,

Seitchik & Zornitsky (1989) found that 54% of displaced manufacturing workers found reemployment in factory positions, and that these workers were much less likely to experience downward mobility than those re-employed in non-manufacturing jobs. Their job searches, however, were typically longer and more difficult because of the scarcity of manufacturing openings. Drawing on this research, some policy makers suggest that assistance strategies should focus on reemployment in manufacturing or other blue collar trades (Jacobson, LaLonde, & Sullivan, 1993; Seitchik & Zornitsky, 1989).

### *Social Networks and Social Capital*

Social capital has been described as the resources that are accessed through social networks (Lin, 1999). Job seekers are expected to benefit from possessing social capital in the form of personal acquaintances and civic associates whose information, influence, and relational obligations can connect them with resources including employment opportunities (Burt, 1997; Coleman, 1988; Lin, 1998; Putnam, 1995). The structure and function of social capital can be explained in part by social network theory, which describes the social environment as a web of interpersonal and intercorporate connections that can be analyzed according to characteristics including size, composition, intimacy, density, reciprocity, and the content of the resources exchanged (Bott, 1955; Boissevain, 1974; Marsden & Lin, 1982). Networks that are large in size and contain a variety of close and weak (distant) acquaintances are hypothesized as providing access to the greatest number of resources (including job contacts), while networks that are limited in size and diversity can constrain resource mobilization and opportunity mobility (Granovetter, 1973; 1995; Montgomery, 1992). Network analysts assert that close friends are most likely to share similar social worlds, while more distant acquaintances often have connections to somewhat different social environments and opportunities.

Research indicates that many job seekers locate employment through personal acquaintances, and that the ability to access contacts with higher socioeconomic status is a critical factor in status attainment and upward economic mobility (Brieger, 1982; Granovetter, 1973; Patterson, 1998; Powell & Smith-Doerr, 1994).

Lin (1999) maintains that the "strength" of the weak ties proposition may be that distant acquaintances are more likely to provide bridges to vertically higher social or economic contacts, who can facilitate instrumental actions such as job acquisition. Numerous empirical studies, most conducted with middle class or professional employees, have found that contact status affects the status of attained employment ( Ensel, 1979; Hsung & Hwang, 1992; Lin et al 1981; Montgomery, 1991; Wegener, 1991). Other researchers maintain that the interaction of social and human capital is a logical and significant dynamic: those with strong human capital (education, training, and work experience) tend to have stronger social capital (larger and more diverse networks and contacts with higher education, training, and work experience) (Boxman et al, 1991; Lin, 1999). The few studies of social capital and job search among poor, low-income, or unemployed groups have found that the poor (particularly those living in high poverty neighborhoods) often have networks that are smaller in size, less diverse, and have a higher percentage of kin than those of the non-poor (Fernandez and Harris, 1992; Patterson, 1998; Stack, 1975; Zippay, 1990). As with other income groups, some studies have found that network size and composition (including acquaintances of higher socioeconomic status) positively affect employment outcomes (Schneider, 00), and that network composition and the use of social contacts for job search varies by gender, ethnicity, and immigrant status (Reingold, 1999).

### Research Questions

Research questions for the study of displaced steelworkers in western Pennsylvania included: In what employment sectors did the respondents find jobs and what were their paths to mobility? What were the long-term effects of job training and education? What role did social contacts play in facilitating occupational mobility?

### Setting

The site for the study was the Shenango Valley in Western Pennsylvania, located 90 miles north of Pittsburgh. The Shenango Valley is made up of a cluster of small towns with a population

of about 60,000. For over one hundred years manufacturing employed the majority of its workforce, and steel production and fabrication were the dominant local industries. In the early 1980s, a series of 7 plant closings displaced an estimated 6,500 workers, and sent unemployment levels soaring to 24% in 1983. The manufacturing decline continued through the 1980s as a number of other mills shut down or contracted.

By the early 1990s, the stronger national economy began to be reflected locally. Several older mills that had survived the 1980s downturn experienced rising demands for their products. Several national retail chains opened stores in the area and, following national trends, a number of specialty mini-mills were opened in the Valley (Barnett & Crandell, 1986; Scherrer, 1988). The numbers of available manufacturing jobs rose slightly, though service jobs, particularly in restaurants and retail sales, continued to dominate the economy. By 1997, the unemployment rate had dropped to 5.3% (Penn Northwest Development Corporation, 1997).

### Methodology

In 1987, in-person interviews were conducted with 102 randomly selected displaced steelworkers who were residing in the Shenango Valley. All had been employed as hourly laborers at two local steel fabrication plants that terminated operations in 1983 and 1984, and the interviews were conducted four years after the first plant shut down to examine longer-term income and employment effects. The numbers of hourly manufacturing workers employed at these plants was 1,050 and 950. The sampling frame consisted of the United Steelworkers of America (USWA) list of union members employed at the plants at the time of their closing. The 90-minute interviews, conducted by the author, were held in the respondents' homes or at a community center. The response rate was 86%. It is estimated that between 10 to 15% of local displaced workers relocated after the shutdowns. Only individuals who were still residing within a 60-mile radius of the Shenango Valley were included in the sample of 102 respondents.

The study used a mixed methodology, collecting both quantitative and qualitative data (Patton, 1990; Tashakkori & Teddlie,



1998), and used a structured interview schedule to collect information on current income and employment status, job searches and job retraining, social service utilization, and emotional and behavioral reactions to job loss (Zippay, 1991a).

### *10 Year Follow-up:*

Telephone interviews were conducted by the author in 1997 with a panel of 87 respondents who had been interviewed in 1987. Using a mixed methods approach, a structured questionnaire was utilized to collect both quantitative and qualitative data. (Tashakkori & Teddlie, 1998). Information was solicited on current income and employment status, job searches, recent work history, and education and training efforts. The respondents were also asked to describe their current work environment, and to discuss the social and economic transitions that they and their families experienced over the past 10 years. The interviews took about 60 minutes to conduct. The qualitative information was analyzed using cross-case analysis, in which the answers to each question were grouped and coded for themes and patterns (Patton, 1990).

Attempts were made to contact all of the original 102 respondents. Five were deceased, two refused to participate in a follow-up interview, and 8 had non-current phone numbers or addresses that could not be updated through the telephone directory, post office, or the files at the local steelworkers union. The response rate was 90%. All of these 87 respondents still lived in the Shenango Valley or surrounding communities.

### *Characteristics of Respondents*

The 102 respondents interviewed in 1987 were primarily long-time Valley residents who had worked their whole lives in the mills. Their mean age was 44, and they averaged 16 years of seniority at the plants. All but three were male, 86 were white, and 14 were African American. Eighty-two percent were married. Most had at least a high school education or more: 4% were college graduates; 17% had some college or post-secondary training; 60% had a high school diploma only; and 19% did not graduate from high school. In 1983, their hourly wages at the mills averaged \$12, with a mean individual annual income of \$25,000.

The demographics of the respondents interviewed in 1997 included: 99% male, 90% white and 10% African American. Their ages ranged from 42 to 79, with a mean of 54. Seventy-five percent were married, and 85% had completed at least 12 years of school.

## Results

### *Changes in Employment and Income over 10 Years*

Table 1 lists the key changes in employment and income status from 1987 to 1997. One of the most startling findings of the 1987 study was the degree of downward mobility experienced by the former blue collar, middle-income respondents. At the time of the first interview, 36 of the 102 respondents were not working including 14 who were unemployed and 11 who had dropped out of the labor force because they were discouraged by job search failures. Among those who were working, the majority were employed in low-wage service jobs with a modal wage that was the minimum of \$3.35. Over one-quarter reported household incomes below the federal poverty line.

By 1997, a majority of the respondents had made economic and employment gains, with many once again employed in

Table 1

### *Changes in income and employment, 1987/1997*

	1987	1997
	N = 102	N = 87
Unemployed	14 (14%)	1 (.01%)
Retired	9 (9%)	17 (19%)
Income below poverty	27 (27%)	6 (7%)
Average hourly wage	\$6.50	\$12.14
Median household income	\$14,500	\$32,500
<i>Employment sector</i>	Employed N = 65	Employed N = 61
Manufacturing	14 (22%)	29 (47%)
Low-wage service sector	39 (60%)	9 (15%)
Non-factory blue collar	5 (8%)	10 (16%)
Administrative/professional	7 (11%)	9 (15%)

manufacturing or other non-factory blue collar trades (such as electrician or carpenter). Average hourly wages had almost doubled, and the poverty rate had fallen to 7%. Only 1 of the respondents was unemployed, 70% were employed, and 19% had retired. Among the employed, union membership had risen to 40% from 17% in 1987.

Despite the gains obtained since 1987, however, most of the employed were not earning as much as they had when their plants closed in the early 1980s. Adjusted for inflation, the 1997 hourly average of \$12.14 represented a loss of 48% from the mean of \$12 hour they were earning as steelworkers in 1983 and 1984. In addition, most had much less generous health, vacation, and retirement benefits in their current jobs.

### *Manufacturing and Service Employment*

In a major occupational shift, only 9 (14%) of the 61 respondents who were employed in 1997 were working in the low-wage service sector positions. Almost one-half were employed in manufacturing, 16% were working in other blue collar jobs such as construction, electrician, or carpenter, and 15% were in supervisory, managerial, or professional positions including teacher, attorney, small business owner, and social services program administrator. In contrast, in 1987 over half of the 65 who were working held low-wage service sector jobs, 22% worked in manufacturing, 8% in other blue collar trades, and 11% held administrative or professional positions.

There were sharp differences in the wages and benefits of those employed in nonprofessional service jobs versus the other occupational areas. These service jobs tended to be entry level positions such as store clerk, janitor, and security guard, with average hourly wages of \$6.42 compared to \$13.35 for manufacturing jobs, and \$15.93 for other blue collar trades. While only 11% of manufacturing and other blue collar jobs did not provide health insurance, 7 of the 9 low-wage service sector positions carried no health benefits. All of the respondents who worked in manufacturing or other blue collar positions worked full-time, and the majority also worked extensive overtime. Among the nonprofessional service employees, one-half were employed 30 hours a week or less. Salaries for the individuals who held professional

and managerial jobs were available for 8 of the 9 respondents, and their annual incomes ranged from \$28,000 to \$78,000, with a median of \$46,000.

*Human Capital Investments: Job Training and Education*

At the time of the first interview, 23% (N = 23) of the respondents had participated in some form of job training or education. Most of the training was short-term, such as a two-month typing course, a 6-month program in engine repair, and bartending school. Few respondents obtained jobs related to that training. Because of high local demand and severe under funding, only 8 respondents had training funded through the federal Job Training Partnership Act (JTPA), and 15 financed it themselves (the respondents were not eligible for Trade Adjustment Assistance). The analysis in 1987 found that there was no difference in the income and employment status between the respondents who participated in job training and education and those who did not, with both groups averaging hourly wages of \$6.50 (Zippay, 1991b).

Despite these lackluster results, many of the respondents interviewed in 1997 had continued their efforts to achieve upward mobility through increased education and training. Among the 70 respondents who were not retired, 19% (N = 13) had participated in some form of education and training during the previous five years. Three of the respondents' training was JTPA-funded (after they had been displaced by another plant closing), and the rest had paid for the training themselves. In contrast to the training received in the 1980s, it tended to be more advanced and skill specific. For example, two completed BA's in business and education, one completed an apprenticeship as a cement mason, two were trained as high-tech medical equipment repair persons, and one obtained a commercial truck driver's license.

The long-term effects of this training on income and employment were examined by comparing the current hourly wages of the non-retired respondents who participated in training in the 1980s and 1990s (N = 28) versus those non-retired respondents who had no additional training or education over the last 10 years (N = 32). The hourly wages for those who had pursued training and education were significantly higher at \$13.80 compared to \$10.97 ( $t = 2.13$ ,  $df = 39.44$ ,  $p < .039$ ). However, the

higher wages were associated with the more advanced studies. Among the respondents who had college level education or advanced training in blue collar trades ( $N = 14$ ) hourly wages were \$14.60 compared to \$10.90 for those who had a year or less of entry-level training ( $N = 14$ ) (such as 8 weeks of computer programming).

Table 2 lists examples of the types of training and education obtained over the past 10 years that led to *current* jobs related to that training, and examples of the kind of training that did not. Of the 28 respondents who had pursued training or education, 13 had jobs linked to that training. As illustrated, related jobs tended to be associated with training that was the most advanced or skill-specific: law school, an associates degree in biotechnology, a BA in business, a BA in education, and a trade apprenticeship. *Not one* of the 14 respondents who had completed short-term training of one year or less had a job related to that training.

Table 2

*Job Training by Current Employment*

<i>Type of training</i>	<i>Current employment</i>	<i>Hourly wage/salary</i>
<i>Examples of training unrelated to employment</i>		
8 weeks computer programing	Ironworker	\$15.90
6 month course, engine repair	Welder	\$11.00
Bartending course	Machinist	\$12.00
Correspondence course, mechanics	Baker, cookie factory	\$ 9.00
Locksmith course	Welder	\$11.00
GED	Unemployed	—
<i>Examples of training related to employment</i>		
Electrical apprentice	Electrician	\$25.00
Cement mason apprentice	Cement mason	\$19.00
BA, education	Teacher	\$28,000 year
BA, business	Product manager	\$75,000 year
JD, Law school	Attorney	Not available
Associates degree, biotechnology	Medical technician	\$16.00
Commercial driver's license	Truck driver	\$11.00
Carpenter's apprentice	Carpenter	\$25.00

How did some former steelworkers come to pursue training and careers as attorneys, business managers, and teachers? Their stories had common themes: a confidence in their intellect and a nagging feeling while employed in the mills that they could do better; a network contact that was involved in their new profession who provided information and support regarding a career-shift (the father of the attorney, for example, was a lawyer); and resources to finance the education or training (a working spouse, substantial savings, and/or college financial aid).

*Social Capital: Job Search and Social Networks*

In 1987, most of the respondents had described job searches following the plant closings that were both intensive and extensive. Most had "pounded the pavement," visiting scores of manufacturing and blue collar employers within a 60-mile radius of the Valley to submit in-person applications. If no job was found, they typically extended their search to service sector establishments such as stores and restaurants. With a majority of respondents eventually accepting low-wage service sector positions, most continued an ongoing search to seek higher wages. Turnover was high, and the respondents typically gained incremental wage increases by moving from one low-wage position to another that was slightly higher-paying. Many also eventually used network contacts to secure a better job.

By 1997, "pounding the pavement" had ceased to be part of a long-term search strategy. Rather, most respondents had relied almost exclusively on their social networks in seeking job upgrades over the previous decade. With a few exceptions, most of the respondents employed in services sought to return to manufacturing or other blue collar work, areas of employment in which they were skilled and comfortable, and which offered better pay. The respondents were unanimous in declaring that "knowing someone" was the only way to get a job in the fiercely competitive bidding for mill work. Most respondents described a similar job search strategy: let all of your friends and acquaintances know you would like a manufacturing job, keep in touch with anyone employed in factory work, and ask about openings whenever you see them.

Of the 65 respondents who were working in 1997, 48 (74%) had obtained their current job through a relative, friend, or

acquaintance. Among the 29 employed in manufacturing, 25 (86%) had obtained their job through such contacts. These connections were tapped in various ways.

*I was working as a gardener for the President of [local mill]. I just kept pestering him till he got me a job at the plant.*

*I had a friend who worked at [local mill]—I seen his wife at Bingo and she says, "I hear they're hirin', go put in an application."*

*A friend told me they were hiring at the mill. I went down and the girl [receptionist] said, "We aren't taking applications." I asked to see the boss and told him my friend had sent me. He said, "Get your hood and I'll give you a welding test right now." I passed and started work the next day.*

One local plant has formalized and systematized this networking process. When job openings occur, the social security numbers of current employees are put into a lottery, and those whose numbers are drawn can refer two acquaintances for the position. Each of the three respondents who worked at this plant in 1997 had gotten their position that way.

Because the respondents' close friends and relatives tended to be other factory workers, these intimate ties were the most frequent job sources for those re-employed in manufacturing and other blue collar work. Among those employed in professional or advanced technical jobs, more distant acquaintances and friends of friends were their most common job contacts. One respondent who obtained an Associate's degree in biotechnology described the effects of these multi-tiered contacts::

*When I first went back to school a friend of mine who worked in the hospital got me an entry level job there. Then when I finished my degree it was someone from the second circle of acquaintances that I met at the hospital that got me the technician's job.*

While social networks played an important role in connecting respondents to employment opportunities, 74% (N = 75) of those interviewed in 1987 described cutting back on social and recreational activities as one of their means for reducing expenses after the plant closings:

*My wife cut out bowling and I cut out my sports club.*

*We stayed home a lot—cut back on everything and stopped going out.*

*Job Upgrading*

As described, most of those employed in the service sector in 1987 were continually on the lookout for better paying jobs, and used social network contacts and job training and education in seeking upward mobility. Of the 27 non-retired respondents who had worked in the low-wage service sector a decade earlier, 14 made wage gains by 1997 by moving into manufacturing or other blue collar positions, and often secured substantial wage increases. For example, one respondent who was working as a gardener for \$6.10 an hour in 1987 was earning \$22.50 as a plant foreman in 1997. Another four respondents secured wage gains by obtaining supervisory positions within the service sector as, for example, an aide at a school for the mentally retarded (\$5.89 hour) who rose to a program administrator position (\$10.91). However, nine men who had worked in low-wage positions in 1987 remained in entry-level, low-paying jobs with incremental wage increases that were often startlingly low. One who was employed as a security guard making the minimum wage of \$3.35 in 1987 was earning the minimum wage of \$4.75 in the same position 10 years later. Another who was working as a gas station attendant making \$3.43 in 1987 was earning \$6.00 as a sales clerk in 1997. Thus, of the 27 current non-retired respondents employed in the low-wage service sector in 1987, only 4 achieved job upgrading within that sector.

### Discussion

Among this sample of displaced steelworkers, regaining middle-income status was achieved through reemployment in a manufacturing or other non-factory blue collar job, or through advanced education or training that led to a professional or managerial position. The most significant wage gains came by moving from a nonprofessional service job to another employment sector, and almost all of those still holding nonprofessional service positions in 1997 continued to earn low-wages and benefits.

Among all respondents, social capital in the form of personal contacts were the primary means by which they obtained work, and were especially crucial for gaining access to factory



jobs. The respondents kept tabs on those close friends and more distant acquaintances employed in manufacturing, and persistently asked about openings. Because their closest friends and relatives tended to have social and employment backgrounds similar to their own, they were the most frequent connections to manufacturing work. Network contacts were also important to the mobility of the respondents who moved into managerial and professional positions: all had a network contact working within that occupation who provided initial information and encouragement for the career move. As these respondents entered less familiar occupational roles, more distant and diverse acquaintances became their primary job sources. Despite the importance of social connections to employment opportunities, the majority of respondents reported that they cut back on social activities as a cost-cutting measure in the years following the plant closures when they were unemployed or underemployed.

Well aware of the evolving post-industrial economy, a large number of workers in this sample sought job upgrading through training and education. In accord with other findings (Department of Labor, 1995), short-term training was not effective in providing training-related employment, or in advancing hourly wages above the sample mean. Also in line with previous research, a majority of these displaced workers expressed a preference for blue collar or factory work for reasons including familiarity, wages, or pride in their manufacturing craft or skill.

### *Reclaiming Human Capital*

Obviously, many of the job gains of the sample would not have occurred in the absence of a healthier local and national economy, increasing manufacturing orders, and the opening of new mini-mills (which were spurred, in part, by plummeting local wages for skilled factory labor). However, the labor market for good paying jobs was competitive, and it was the network contacts of most respondents that allowed them to reclaim or activate their human capital to gain access to available jobs. Critical to this mobility were contacts that provided the respondents with vertical access to better jobs: moving, for example, from a janitor to a welder, or from a hospital aide to a medical technician. Because

of their hierarchical position or the information they possessed, these network contacts were able to facilitate the instrumental action of job acquisition.

There were limits, however, to the economic mobility that such access could provide based on the nature of the respondents' human capital and the parameters of the job market. While those employed in manufacturing had made gains relative to their positions in 1987, and relative to the situation of those working in the low-wage service sector, their average wages and benefits adjusted for inflation were below what they received in 1983, reflecting changes in the structure of local and national industry. The only respondents whose earnings kept pace with inflation were those in professional and some managerial positions, and the blue collar trades of electrician, carpenter, and cement mason. Among the nine respondents who remained in low-wage service jobs, it is unclear to what extent their inability to access a higher-paying job was due to some combination of factors related to lack of network job contacts, personal attributes such as age, education, or health, job availability, or other personal or resource issues.

### Implications

While this study is not generalizable, it generates questions for job search and mobility research with other low-income groups. The salience of network contacts to job upgrading suggests, for this sample, the importance of maintaining community and social contacts throughout the initial and later periods of unemployment and occupational transition, and the potential positive effects of persistently pursuing *both* close and "weak" network job connections over the course of many years. It could be argued that the findings imply the importance of maintaining network-sustaining recreational and social programs (from bowling leagues to civic associations) in low-income and working class communities.

The results also suggest that, among these respondents, training could have favored more advanced education, or training that purposefully built on existing skills. Examples of career-enhancing training that was based on extant human capital

included two respondents who had previously worked as millwrights, received advanced training in repairing high tech medical equipment, and were employed at high wages in that field.

While most of the respondents returned to manufacturing or other blue collar work, the range of their new jobs—including medical technician, business manager, teacher, and attorney—belied expectations and stereotypes regarding manufacturing laborers. Their experiences underscored, for this community, the importance of attending to the range of individual abilities and occupational visions among displaced industrial workers, and the many ways in which variations in training and education, personal connections, personal attributes, and job availability served *in combination* to promote employment and mobility. Social capital was used by many to activate human capital in a series of synergistic applications. Further empirical research can explore with more specificity the ways in which low-income individuals mobilize both social and human capital to gain employment and higher wages, and the ways in which variables such as geography, ethnicity, gender and class affect these processes and their outcomes.

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